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10/015,484	12/13/2001	Erik Ramsten Bush	AUS920010977US1	6649

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IBM CORPORATION- AUSTIN (JVL)
C/O VAN LEEUWEN & VAN LEEUWEN
PO BOX 90609
AUSTIN, TX 78709-0609

EXAMINER	
DESHPANDE, KALYAN K	

ART UNIT	PAPER NUMBER
3623	

DATE MAILED: 01/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/015,484	BUSH ET AL.	
	Examiner	Art Unit	
	Kalyan K. Deshpande	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/13/2001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Introduction

1. The following is a non-final office action in response to the communications received on December 13, 2001. Claims 1-27 are now pending in this application.

Information Disclosure Statement

2. The examiner has reviewed the patents and articles supplied in the Information Disclosure Statements (IDS) provided on December 13, 2001.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 5-12, 14-21, and 23-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Fargher et al. (U.S. Patent No. 5586021).

As per claim 1, Fargher teaches:

A method of managing resources, said method comprising:

receiving one or more buffer variables and one or more endogenous variables (see column 4 lines 61-67, column 5 lines 1-67, column 6 lines 1-67, and column 11 lines 5-30, and figure 1; where the system planner receives inputs as to the manufacturing requirements in order to simulate a production plan. The system predicts work completion within some given level of confidence, such as 50% or 80%, based on cycle times, tardy delays, and unexpected events. Cycle times

are evaluated based on a possible variance. The level of confidence is a buffer variable. Buffer data is the standard deviations and possible excess capacity per the specification (see specification page 18). Endogenous variables are inputs relating to capacity levels and inventory levels (see specification page 19). The user inputs these variables, including other variables, into the system to determine the production plan.);

determining one or more exogenous variables (see column 4 lines 61-67, column 5 lines 1-67, and column 6 lines 1-67; where manufacturing requirements and capacity levels are input in to the planner. Exogenous variables are demand (manufacturing requirements) and supply from the labor market (capacity) (see specification page 19).); and

simulating one or more resource requirements using the buffer variables, the endogenous variables, and the exogenous variables (see column 4 lines 61-67, column 5 lines 1-67, column 6 lines 1-67, and figure 1; where the production plan is simulated based on all available inputs, including buffer variables, endogenous variables, and exogenous variables.).

As per claim 2, Fargher teaches:

The method as described in claim 1 wherein the buffer variable is selected from the group consisting of a buffer size, a buffer zone, and a virtual buffer (see column 4 lines 61-67, column 5 lines 1-67, column 6 lines 1-67, column 7 lines 13-62, and column 11 lines 5-30, and figure 1; where the system planner receives inputs as to the manufacturing requirements in order to simulate a production plan. The system

predicts work completion within some given level of confidence, such as 50% or 80%, based on cycle times, tardy delays, and unexpected events. Cycle times are evaluated based on a possible variance. The level of confidence is a buffer variable. The level of confidence and the standard deviations determined by the simulation are buffer sizes and buffer zones. The user has the ability to view resource groups and the skills they can perform. Virtual buffers allow users to view resource availability across skill groups when resources have both one primary skill code that defines a skill group and other secondary skill codes (see specification page 18).).

As per claim 3, Fargher teaches:

The method as described in claim 1 further comprising:

selecting a simulation mode (see column 4 lines 61-67, column 5 lines 1-67, column 6 lines 1-67, and figure 1; where all variables are input in to the system planner and the planner runs a simulation based on these inputs.); and

receiving a resource plan input based on the selected simulation mode (see column 4 lines 61-67, column 5 lines 1-67, column 6 lines 1-67, and figure 1; where all variables are input in to the system planner and the planner runs a simulation of the production plan based on these inputs.).

As per claim 5, Fargher teaches:

The method as described in claim 1 wherein at least one of the endogenous variables is selected from the group consisting of a capacity increase decision, a capacity decrease decision, and a resource supply source (see column 7 lines 13-62; where an endogenous variable is the availability of capacity.).

As per claim 6, Fargher teaches:

The method as described in claim 1 wherein at least one of the exogenous variables is determined by calculating a resource supply (see column 7 lines 13-62; where an exogenous variable, the availability of a resource group, is determined.).

As per claim 7, Fargher teaches:

The method as described in claim 1 further comprising:

generating a resource usage report that includes the resource requirements in response to the simulation (see column 7 lines 13-62; where the plan is represented by resource usage.).

As per claim 8, Fargher teaches:

The method as described in claim 1 wherein the simulating includes performing discrete event systems simulation (see column 8 lines 7-67, column 9 lines 1-67, and column 10 lines 1-45; where the planner accounts for discrete events and production uncertainty, such as machine failure and tardiness of work in progress (WIP).).

As per claim 9, Fargher teaches:

The method as described in claim 1 further comprising:

selecting a replenishment mode, the replenishment mode including a pure replenishment mode and a forecast replenishment mode (see column 7 lines 13-62; where the user can select resources for production. Replenishment is defined as adjusting the number of resources (see specification page 20); and

including the selected replenishment mode as an input to the simulating (see column 7 lines 13-62; where the user can select resources for production. Replenishment is defined as adjusting the number of resources (see specification page 20).

As per claim 10, Fargher teaches:

An information handling system comprising:

one or more processors (see column 13 lines 45-67 and column 14 lines 1-12; where the system has a microprocessor.);

a memory accessible by the processors (see column 13 lines 45-67 and column 14 lines 1-12; where the system has memory accessible by the processor.);

one or more nonvolatile storage devices accessible by the processors (see column 13 lines 45-67 and column 14 lines 1-12; where the system has nonvolatile storage devices accessible by the processor.);

a resource management tool, the resource management tool including:

means for receiving one or more buffer variables and one or more endogenous variables (see column 4 lines 61-67, column 5 lines 1-67, column 6 lines 1-67, and column 11 lines 5-30, and figure 1; where the system planner receives inputs as to the manufacturing requirements in order to simulate a production plan. The system predicts work completion within some given level of confidence, such as 50% or 80%, based on cycle times, tardy delays, and unexpected events. Cycle times are evaluated based on a possible variance.

The level of confidence is a buffer variable. Buffer data is the standard deviations and possible excess capacity per the specification (see specification page 18). Endogenous variables are inputs relating to capacity levels and inventory levels (see specification page 19). The user inputs these variables, including other variables, into the system to determine the production plan.);

means for determining one or more exogenous variables (see column 4 lines 61-67, column 5 lines 1-67, and column 6 lines 1-67; where manufacturing requirements and capacity levels are input in to the planner. Exogenous variables are demand (manufacturing requirements) and supply from the labor market (capacity) (see specification page 19).); and

means for simulating one or more resource requirements using the buffer variables, the endogenous variables, and the exogenous variables (see column 4 lines 61-67, column 5 lines 1-67, column 6 lines 1-67, and figure 1; where the production plan is simulated based on all available inputs, including buffer variables, endogenous variables, and exogenous variables.).

As per claim 11, Fargher teaches:

The information handling system as described in claim 10 wherein the buffer variable is selected from the group consisting of a buffer size, a buffer zone, and a virtual buffer (see column 4 lines 61-67, column 5 lines 1-67, column 6 lines 1-67, column 7 lines 13-62, and column 11 lines 5-30, and figure 1; where the system planner receives inputs as to the manufacturing requirements in order to simulate a production plan. The system predicts work completion within some given level of

confidence, such as 50% or 80%, based on cycle times, tardy delays, and unexpected events. Cycle times are evaluated based on a possible variance. The level of confidence is a buffer variable. The level of confidence and the standard deviations determined by the simulation are buffer sizes and buffer zones. The user has the ability to view resource groups and the skills they can perform. Virtual buffers allow users to view resource availability across skill groups when resources have both one primary skill code that defines a skill group and other secondary skill codes (see specification page 18).).

As per claim 12, Fargher teaches:

The information handling system as described in claim 10 further comprising:

means for selecting a simulation mode (see column 4 lines 61-67, column 5 lines 1-67, column 6 lines 1-67, and figure 1; where all variables are input in to the system planner and the planner runs a simulation based on these inputs.); and

means for receiving a resource plan input based on the selected simulation mode (see column 4 lines 61-67, column 5 lines 1-67, column 6 lines 1-67, and figure 1; where all variables are input in to the system planner and the planner runs a simulation of the production plan based on these inputs.).

As per claim 14, Fargher teaches:

The information handling system as described in claim 10 wherein at least one of the endogenous variables is selected from the group consisting of a capacity

increase decision, a capacity decrease decision, and a resource supply source (see column 7 lines 13-62; where an endogenous variable is the availability of capacity.).

As per claim 15, Fargher teaches:

The information handling system as described in claim 10 wherein at least one of the exogenous variables is determined by calculating a resource supply (see column 7 lines 13-62; where an exogenous variable, the availability of a resource group, is determined.).

As per claim 16, Fargher teaches:

The information handling system as described in claim 10 further comprising:

means for generating a resource usage report that includes the resource requirements in response to the simulation (see column 7 lines 13-62; where the plan is represented by resource usage.).

As per claim 17, Fargher teaches:

The information handling system as described in claim 10 wherein the simulating includes performing discrete event systems simulation (see column 8 lines 7-67, column 9 lines 1-67, and column 10 lines 1-45; where the planner accounts for discrete events and production uncertainty, such as machine failure and tardiness of work in progress (WIP).).

As per claim 18, Fargher teaches:

The information handling system as described in claim 10 further comprising:

means for selecting a replenishment mode, the replenishment mode including a pure replenishment mode and a forecast replenishment mode (see column 7

lines 13-62; where the user can select resources for production. Replenishment is defined as adjusting the number of resources (see specification page 20); and

means for including the selected replenishment mode as an input to the simulating (see column 7 lines 13-62; where the user can select resources for production. Replenishment is defined as adjusting the number of resources (see specification page 20).

As per claim 19, Fargher teaches:

A computer program product stored in a computer operable media for managing resources, said computer program product comprising:

means for receiving one or more buffer variables and one or more endogenous variables (see column 4 lines 61-67, column 5 lines 1-67, column 6 lines 1-67, and column 11 lines 5-30, and figure 1; where the system planner receives inputs as to the manufacturing requirements in order to simulate a production plan. The system predicts work completion within some given level of confidence, such as 50% or 80%, based on cycle times, tardy delays, and unexpected events. Cycle times are evaluated based on a possible variance. The level of confidence is a buffer variable. Buffer data is the standard deviations and possible excess capacity per the specification (see specification page 18). Endogenous variables are inputs relating to capacity levels and inventory levels (see specification page 19). The user inputs these variables, including other variables, into the system to determine the production plan.);

means for determining one or more exogenous variables (see column 4 lines 61-67, column 5 lines 1-67, and column 6 lines 1-67; where manufacturing requirements and capacity levels are input in to the planner. Exogenous variables are demand (manufacturing requirements) and supply from the labor market (capacity) (see specification page 19).); and

means for simulating one or more resource requirements using the buffer variables, the endogenous variables, and the exogenous variables (see column 4 lines 61-67, column 5 lines 1-67, column 6 lines 1-67, and figure 1; where the production plan is simulated based on all available inputs, including buffer variables, endogenous variables, and exogenous variables.).

As per claim 20, Fargher teaches:

The information handling system as described in claim 19 wherein the buffer variable is selected from the group consisting of a buffer size, a buffer zone, and a virtual buffer (see column 4 lines 61-67, column 5 lines 1-67, column 6 lines 1-67, column 7 lines 13-62, and column 11 lines 5-30, and figure 1; where the system planner receives inputs as to the manufacturing requirements in order to simulate a production plan. The system predicts work completion within some given level of confidence, such as 50% or 80%, based on cycle times, tardy delays, and unexpected events. Cycle times are evaluated based on a possible variance. The level of confidence is a buffer variable. The level of confidence and the standard deviations determined by the simulation are buffer sizes and buffer zones. The user has the ability to view resource groups and the skills they can perform. Virtual

buffers allow users to view resource availability across skill groups when resources have both one primary skill code that defines a skill group and other secondary skill codes (see specification page 18).).

As per claim 21, Fargher teaches:

The information handling system as described in claim 19 further comprising:

means for selecting a simulation mode (see column 4 lines 61-67, column 5 lines 1-67, column 6 lines 1-67, and figure 1; where all variables are input in to the system planner and the planner runs a simulation based on these inputs.); and

means for receiving a resource plan input based on the selected simulation mode (see column 4 lines 61-67, column 5 lines 1-67, column 6 lines 1-67, and figure 1; where all variables are input in to the system planner and the planner runs a simulation of the production plan based on these inputs.).

As per claim 23, Fargher teaches:

The information handling system as described in claim 19 wherein at least one of the endogenous variables is selected from the group consisting of a capacity increase decision, a capacity decrease decision, and a resource supply source (see column 7 lines 13-62; where an endogenous variable is the availability of capacity.).

As per claim 24, Fargher teaches:

The information handling system as described in claim 19 wherein at least one of the exogenous variables is determined by calculating a resource supply (see column

7 lines 13-62; where an exogenous variable, the availability of a resource group, is determined.).

As per claim 25, Fargher teaches:

The information handling system as described in claim 19 further comprising:

means for generating a resource usage report that includes the resource requirements in response to the simulation (see column 7 lines 13-62; where the plan is represented by resource usage.).

As per claim 26, Fargher teaches:

The information handling system as described in claim 19 wherein the simulating includes performing discrete event systems simulation (see column 8 lines 7-67, column 9 lines 1-67, and column 10 lines 1-45; where the planner accounts for discrete events and production uncertainty, such as machine failure and tardiness of work in progress (WIP).).

As per claim 27, Fargher teaches:

The information handling system as described in claim 19 further comprising:

means for selecting a replenishment mode, the replenishment mode including a pure replenishment mode and a forecast replenishment mode (see column 7 lines 13-62; where the user can select resources for production. Replenishment is defined as adjusting the number of resources (see specification page 20); and

means for including the selected replenishment mode as an input to the simulating (see column 7 lines 13-62; where the user can select resources for

production. Replenishment is defined as adjusting the number of resources (see specification page 20).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 4, 13, and 22 rejected under 35 U.S.C. 103(a) as being unpatentable over Fargher et al. (U.S. Patent No. 5586021).

As per claim 4, Fargher teaches:

The method as described in claim 3, wherein the system simulates production planning, decision support planning, in order to determine the optimal production plan (see column 4 lines 61-67, column 5 lines 1-67, column 6 lines 1-67, and figure 1; where the production plan is simulated based on all available inputs, including buffer variables, endogenous variables, and exogenous variables.).

Fargher fails to teach:

the simulation mode is selected from the group consisting of a research mode and a learning mode.

Fargher fails to explicitly teach separate modes to run the system for researching the production plan, learning how to develop production plans, and for actually creating production plans for use. The advantage to allowing a user to simulate production

planning in a research or learning mode prior to creating an actual production plan is that the user can simulate possible production situations and anticipate production delays or problems. The Fargher system allows a user to simulate production in order to determine the optimal production plan while accounting for uncertainties (see column 8 lines 7-67, column 9 lines 1-67, and column 10 lines 1-45). It would have been obvious, at the time of the invention, to incorporate research and learning modes to the Fargher system in order to allow a user to determine the optimal production plan while accounting for production uncertainties, which is a goal of Fargher (see column 10 lines 59-67).

As per claim 13, Fargher teaches:

The information handling system as described in claim 12, wherein the system simulates production planning, decision support planning, in order to determine the optimal production plan (see column 4 lines 61-67, column 5 lines 1-67, column 6 lines 1-67, and figure 1; where the production plan is simulated based on all available inputs, including buffer variables, endogenous variables, and exogenous variables.).

Fargher fails to teach:

the simulation mode is selected from the group consisting of a research mode and a learning mode.

Claim 13 recites limitations already addressed by the rejection of claim 4; therefore the same rejection applies to this claim.

As per claim 22, Fargher teaches:

The information handling system as described in claim 21, wherein the system simulates production planning, decision support planning, in order to determine the optimal production plan (see column 4 lines 61-67, column 5 lines 1-67, column 6 lines 1-67, and figure 1; where the production plan is simulated based on all available inputs, including buffer variables, endogenous variables, and exogenous variables.).

Fargher fails to teach:

the simulation mode is selected from the group consisting of a research mode and a learning mode.

Claim 22 recites limitations already addressed by the rejection of claim 4; therefore the same rejection applies to this claim.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following are pertinent to the current invention, though not relied upon:

Huang et al. (U.S. Patent No. 5953707) teaches a supply chain management system that accounts for resource, capacity and supply constraints and allows the user to run simulations based on given inputs.

Dietrich et al. (U.S. Patent No. 5630070) teaches a method for constrained material requirements planning, optimal resource allocation, and production planning provides for an optimization of a manufacturing process by designating the amounts of various manufactured products to be produced, which products include both end

products as well as subassemblies to be employed in the manufacture of one or more of the end products.

Donnelly et al. (U.S. Patent No. 6049776) teaches a resource management system for staffing projects.

Crockett et al. (U.S. Patent No. 6044355) teaches a resource management system for a call center using touring templates to simulate and assign tasks and events.

Taoka et al. (U.S. Patent No. 5657453) teaches a production planning system that uses previous production plans to forecast future production plans.

Sisley et al. (U.S. Patent No. 5737728) teaches a system and method for assigning and scheduling resource requests to resource providers use a modified "best-first" search technique that combines optimization, artificial intelligence, and constraint-processing to arrive at near-optimal assignment and scheduling solutions.

Paternina-Arboleda et al. (Paternina-Arboleda, Carlos D.; Das, Tapas K.; "Intelligent Dynamic Control Policies for Serial Production Lines", *IIE Transactions*, January 2001, pp. 65-77) teaches hybrid policies for MRP systems.

Li et al. (Li, Ling X; Chaudhry, Sohail S.; Chaudry, Peggy E.; Wang, Yunfeng; "Evaluation of a Acquiring and Implementing a Manufacturing Resource Planning System", *Production & Inventory Management Journal*, 3rd Quarter 2001, pp. 1-8) teaches the acquisition and implementation of manufacturing resource planning systems.

Knapp et al. (Knapp, Gerald M.; Mahajan, Milind; "Optimization of Maintenance Organization and Manpower in Process Industries", *Journal of Quality in Maintenance Engineering*, 1998, pp. 168-183) teaches having the right number of workers with the right capabilities for scheduling.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalyan K. Deshpande whose telephone number is (571) 272-5880. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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kkd

TARIQ R. HAFIZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600